

TERRESTRIAL MITES OF NEW YORK—VII. KEY TO  
THE SPECIES OF SCUTACARIDAE AND  
DESCRIPTIONS OF NEW SPECIES<sup>1</sup>

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*Abstract.*—Thirty-five species and three subspecies of Scutacaridae are listed from New York. An identification key to the species is given. In addition, three new species and 1 new subspecies are described and figured; these are: *Imparipes cupes*, *Scutacarus* (S.) *meansi*, *S.* (S.) *unicus indefinitus*, and *S.* (Variatipes) *subaffinis*. The specimens were collected from bird nests, dog food, and from a cupedid beetle. *Scutacarus* (S.) *subellipticus* Delfinado & Baker, 1976 (Dec.) is a synonym of *S.* (S.) *curtus* Delfinado, Baker & Abbatiello, 1976 (Junc). The following are transferred from *Imparipes* Berlese to *Archidispus* Karafiat: *insulanus* (Delfinado, Baker & Abbatiello), *longitarsus* (Delfinado, Baker & Abbatiello), *similis* (Delfinado, Baker & Abbatiello) and *tarsalis* (Delfinado, Baker & Abbatiello).

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This series summarizes our knowledge of the scutacarid fauna of New York in the New York State Museum & Science Service collection at Albany. It contains 24 species and one subspecies of *Scutacarus* Gros, four species of *Archidispus* Karafiat, and seven species and two subspecies of *Imparipes* Berlese (Delfinado, Baker & Abbatiello, 1976; Delfinado & Baker, 1976). A key for the identification of the species based on females is given. An additional three new species and one subspecies are described and figured from specimens collected from bird nests, dog food, and from a cupedid beetle in New York. These are: *Imparipes cupes*, *Scutacarus* (S.) *meansi*, *S.* (S.) *unicus indefinitus*, and *S.* (Variatipes) *subaffinis*. *Scutacarus* (S.) *subellipticus* Delfinado & Baker, 1976 (Dec.) is conspecific with *S.* (S.) *curtus* Delfinado, Baker & Abbatiello, 1976 (June); we find no characters to separate the females.

In a previous paper (Delfinado & Baker, 1976), an attempt was made to key the subgenera of *Imparipes* following Karafiat (1959). In that key (1976:265) we erred in recognizing *Heterodispus* Paoli and *Archidispus* Karafiat based on the characters of leg IV. We hope the present key will clarify these errors; we do not recognize *Heterodispus*. The setal nomenclature is that of Delfinado, Baker & Abbatiello (1976).

The following is a list of species of Scutacaridae known from New York:

Genus *Scutacarus* Gros  
 Subgenus *Scutacarus* Gros

- acarorum* (Goeze), 1780: Delfinado, Baker & Abbatiello, 1976:117.  
*bakeri* Mahunka & Rack, 1977, new name for *pectinatus* Delfinado, Baker & Abbatiello, 1976:120, preoec. by *Scutacarus pectinatus* Mahunka, 1968.  
*communis* Delfinado, Baker & Abbatiello, 1976:122.  
*curtus* Delfinado, Baker & Abbatiello, 1976:129 = *subellipticus* Delfinado & Baker, 1976:300, *new synonym*.  
*eickworti* Delfinado & Baker, 1976:298.  
*fimetarius* Delfinado, Baker & Abbatiello, 1976:115.  
*formosus* Delfinado, Baker & Abbatiello, 1976:120.  
*grosi* Delfinado, Baker & Abbatiello, 1976:126.  
*imitans* Delfinado & Baker, 1976:296.  
*impar* Delfinado & Baker, 1976:288.  
*mahunkai* Delfinado, Baker & Abbatiello, 1976:115.  
*meansi*, n. sp.  
*nearcticus* Delfinado, Baker & Abbatiello, 1976:128.  
*notabilis* Delfinado, Baker & Abbatiello, 1976:125.  
*pedestris* Delfinado, Baker & Abbatiello, 1976:125.  
*spinosus* Storkan, 1936: Delfinado & Baker, 1976:292.  
*subspinosus* Delfinado & Baker, 1976:290.  
*terrenus* Delfinado & Baker, 1976:293.  
*unicus* Delfinado & Baker, 1976:295.  
*unicus indefinitus*, n. ssp.

Subgenus *Variatipes* Jacot

- affinis* Delfinado, Baker & Abbatiello, 1976:107.  
*contiguus* Delfinado, Baker & Abbatiello, 1976:109.  
*jacoti* Delfinado, Baker & Abbatiello, 1976:112.  
*subaffinis*, n. sp.  
*uniformis* Delfinado, Baker & Abbatiello, 1976:112.

Genus *Archidispus* Karafiat

- insulanus* (Delfinado, Baker & Abbatiello), 1976:137, *new combination*.  
*longitarsus* (Delfinado, Baker & Abbatiello), 1976:129, *new combination*.  
*similis* (Delfinado, Baker & Abbatiello), 1976:133, *new combination*.  
*tarsalis* (Delfinado, Baker & Abbatiello), 1976:133, *new combination*.

Genus *Imparipes* Berlese

- apicola* (Banks), 1914: Delfinado & Baker, 1976:269.  
*cupes*, n. sp.

*degenerans italicus* Berlese, 1904: Delfinado, Baker & Abbatiello, 1976: 135.

*d. nearcticus* Delfinado, Baker & Abbatiello, 1976:137.

*humilis* Delfinado, Baker & Abbatiello, 1976:140.

*ithacensis* Delfinado & Baker, 1976:279.

*obsoletus* Rack, 1965: Delfinado, Baker & Abbatiello, 1976:143.

*parapicola* Delfinado, Baker & Abbatiello, 1976:140.

*vulgaris* Delfinado & Baker, 1976:286.

### Key to Species (Females)

1. Leg IV 4-segmented, tibia and tarsus fused, without pretarsus, claws and empodium (*Scutacarus* Gros) 2
  - Leg IV 5-segmented, tibia and tarsus distinct, usually with pretarsus, claws and empodium 26
2. Tibiotarsus I with claw (subg. *Scutacarus* Gros) 3
  - Tibiotarsus I without claw (subg. *Variatipes* Jacot) 22
3. Tibiotarsus IV elongate, 5-6 times as long as basal width 4
  - Tibiotarsus IV short, at most twice as long as basal width 5
4. Epimeral setae 4b extending beyond posterior margin of hysterosoma; caudal setae  $h_2$  shorter than  $h_1$ , sparsely barbed
  - mahunkai* Delfinado, Baker & Abbatiello
  - Epimeral setae 4b not reaching posterior margin of hysterosoma;  $h_2$  and  $h_1$  equal in length, plumose
    - finetarius* Delfinado, Baker & Abbatiello
5. Empodium of tarsi II and III slender, spatulate, and not disclike; tarsus II solenidion  $W_1$  very long, rodlike *meansi*, n. sp.
  - Empodium of tarsi II and III rounded, disclike; tarsus II solenidion  $W_1$  short, usually clavate 6
6. Epimeral setae 4b absent 7
  - Epimeral setae 4b present 9
7. Dorsal setae  $e_2$  and  $f_2$  similar in form to and almost as long as other dorsal setae *grosi* Delfinado, Baker & Abbatiello
  - Dorsal setae  $e_2$  and  $f_2$  minute or small, spinelike and well differentiated from other dorsal setae 8
8. Dorsal setae  $e_2$  and  $f_2$  minute, simple *spinus* Storkan
  - Dorsal setae  $e_2$  and  $f_2$  not as small, spinelike and sparsely barbed *subspinus* Delfinado & Baker
9. Epimeral setae 4a anterior to 4b
  - notabilis* Delfinado, Baker & Abbatiello
  - Epimeral setae 4a in transverse line with 4b 10
10. Dorsal setae  $d$ ,  $e_1$ ,  $f_1$  and  $f_2$  conspicuously long,  $\frac{1}{2}$ - $\frac{3}{4}$  as long as length of idiosoma;  $e_2$  minute 11

- Dorsal setae  $d$ ,  $e_1$  and  $f_1$  shorter than idiosoma;  $e_2$  and  $f_2$  varied in size 13
- 11. Caudal setae  $h_1$ ,  $h_2$  and  $h_3$  much shorter than dorsal setae  $d$ ,  $e_1$ ,  $f_1$  and  $f_2$ ;  $h_1$  and  $h_2$  finely plumose  
*communis* Delfinado, Baker & Abbatiello
- Caudal setae  $h_1$ ,  $h_2$  and  $h_3$  very long, nearly as long as dorsal setae;  $h_1$  and  $h_2$  pectinate 12
- 12. Epimeral setae 4a very short, smooth; 3a and 3b both short, extending posteriorly to apodemes 4  
*formosus* Delfinado, Baker & Abbatiello
- Epimeral setae 4a long, barbed, approaching posterior margin of hysterosoma; 3a and 3b long, extending beyond apodemes 4 to bases of 4a and 4b *bakeri* Mahunka & Rack
- 13. Tibiotarsus IV with 7 setae 14
- Tibiotarsus IV with 6 setae 20
- 14. Seta  $s$  of tibiotarsus IV short and slender; seta  $d$  of femur I serrate distally *acarorum* (Goeze)
- Seta  $s$  of tibiotarsus IV usually long and robust; seta  $d$  of femur I simple 15
- 15. Dorsal setae  $e_2$ ,  $f_1$  and  $f_2$  strongly developed, large and well differentiated from other dorsal setae  
*nearcticus* Delfinado, Baker & Abbatiello
- Dorsal setae  $e_2$ ,  $f_1$  and  $f_2$  normal type, or  $e_2$  may be minute 16
- 16. Dorsal setae  $e_2$  minute *terrenus* Delfinado & Baker
- Dorsal setae  $e_2$  not minute, short and slender, or may be spine-like 17
- 17. Epimeral setae 4b long, extending to posterior margin of hysterosoma; 4a short, weak; caudal setae  $h_1$  densely plumose  
*pedestris* Delfinado, Baker & Abbatiello
- Epimeral setae 4b short, not reaching posterior margin of hysterosoma; 4a short but not weak; caudal setae  $h_1$  barbed or pectinate 18
- 18. Dorsal setae  $e_2$  and  $f_2$  similar to other dorsal setae except shorter; caudal setae  $h_3$  small, lanceolate *impar* Delfinado & Baker
- Dorsal setae  $e_2$  and  $f_2$  almost spinelike, well differentiated from other dorsal setae;  $h_3$  hairlike 19
- 19. Seta  $s$  of tibiotarsus IV long and slender, sparsely barbed  
*unicus indefinitus*, n. subsp.
- Seta  $s$  of tibiotarsus IV short, robust, daggerlike and smooth  
*unicus unicus* Delfinado & Baker
- 20. Tibia II dorsal seta distad of solenidion  $\phi$  spinelike, large and stout *eickworti* Delfinado & Baker
- Tibia II dorsal seta distad of solenidion  $\phi$  not spinelike, slender 21

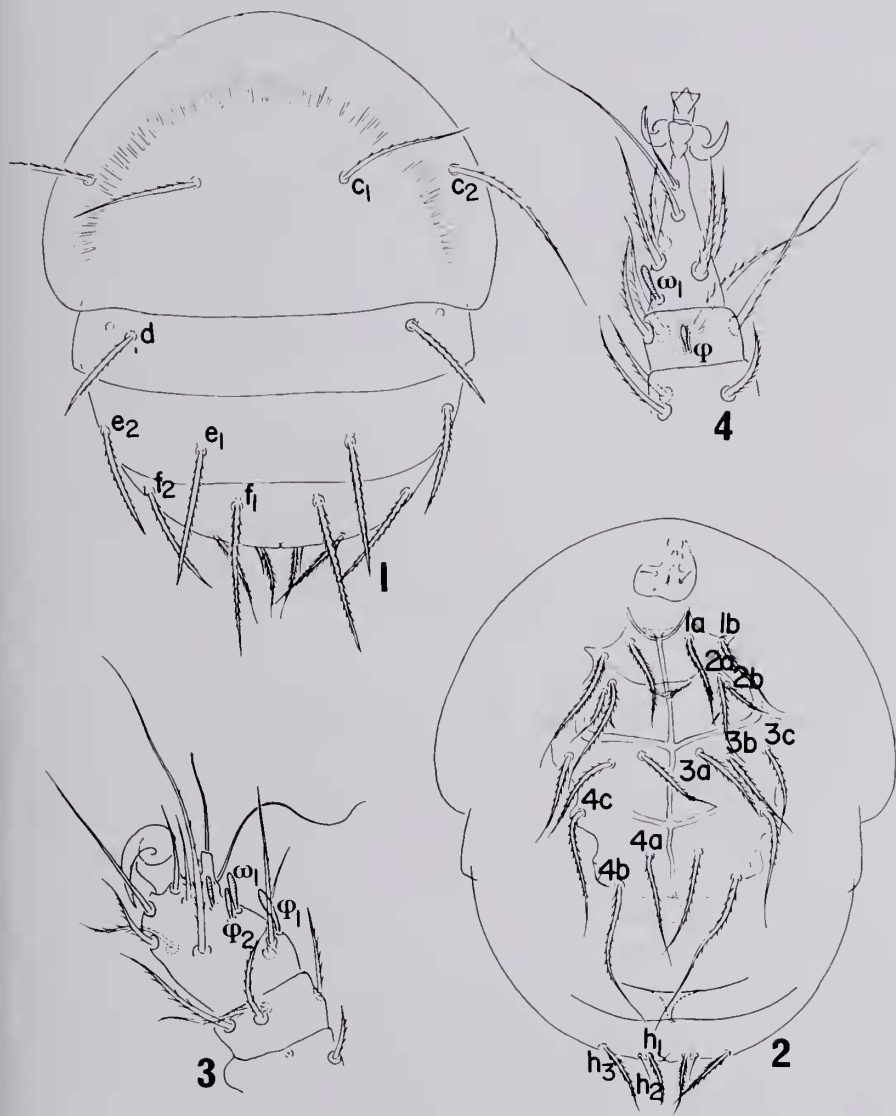
21. Tibiotarsus I solenidion  $W_2$  short and small, clavate, considerably shorter than  $W_1$  *imitans* Delfinado & Baker  
 – Tibiotarsus I solenidion  $W_2$  long and slender, much longer than  $W_1$  *curtus* Delfinado, Baker & Abbatiello
22. Epimeral setae 4a anterior to 4b; dorsal setae  $e_2$  and  $f_2$  strongly developed, especially  $f_2$  and pressed against posterior margin of hysterosoma; caudal setae  $h_1$  broad, leaflike, with hairy fringe *jacoti* Delfinado, Baker & Abbatiello<sup>2</sup>  
 – Epimeral setae 4a in transverse line with 4b; setae  $e_2$  and  $f_2$  normal type and not appressed to margin of hysterosoma; caudal setae  $h_1$  not leaflike 23
23. Dorsal setae  $d$ ,  $e_1$ ,  $e_2$ ,  $f_1$  and  $f_2$  similar in length, with  $e_1$  and  $f_1$  as long as  $e_2$  and  $f_2$ ; caudal setae  $h_1$  barbed,  $h_2$  simple *uniformis* Delfinado, Baker & Abbatiello  
 – Dorsal setae  $d$ ,  $e_1$ ,  $e_2$ ,  $f_1$  and  $f_2$  of various lengths,  $f_1$  or both  $e_1$  and  $f_1$  longer than  $e_2$  and  $f_2$ ;  $h_1$  and  $h_2$  of various forms 24
24. Only dorsal setae  $f_1$  longer than  $e_1$ ,  $e_2$  and  $f_2$ ; caudal setae  $h_1$  and  $h_2$  finely serrate *contiguus* Delfinado, Baker & Abbatiello  
 – Dorsal setae  $f_1$  and  $e_1$  longer than  $e_2$  and  $f_2$ ;  $h_1$  and  $h_2$  not as above 25
25. Tibiotarsus I solenidion  $W_2$  long, as long as  $W_1$ ; caudal setae  $h_1$  sparsely barbed,  $h_2$  simple *affinis* Delfinado, Baker & Abbatiello  
 – Tibiotarsus I solenidion  $W_2$  shorter than  $W_1$ ;  $h_1$  and  $h_2$  serrate *subaffinis*, n. sp.
26. Tarsus IV elongate, gradually narrowing distally; pretarsus always shorter than tarsus (*Archidispus* Karafiat) 27  
 – Tarsus IV broad basally, abruptly narrowed distally; pretarsus usually as long as tarsus (*Imparipes* Berlese) 30
27. Tibiotarsus I with small claw as figured in Delfinado, Baker & Abbatiello, 1976; 139, epimeral setae 3b, 4a and 4b characteristically lanceolate; tibia IV with rodlike solenidion *insulanus* (Delfinado, Baker & Abbatiello), n. comb.  
 – Tibiotarsus I without claw; epimeral setae 3b, 4a and 4b not lanceolate; tibia IV without solenidion 28
28. Epimeral setae 2b daggerlike, smooth; seta  $p$  of tarsus IV large, immensely developed *tarsalis* (Delfinado, Baker & Abbatiello), n. comb.  
 – Epimeral setae 2b slender, barbed; seta  $p$  slender 29
29. Tibiotarsus I solenidion  $W_2$  as long as  $W_1$ , rodlike; caudal setae  $h_2$  simple *similis* (Delfinado, Baker & Abbatiello), n. comb.  
 – Tibiotarsus I solenidion  $W_2$  very short, peglike, much shorter than  $W_1$ ; setae  $h_2$  barbed *longitarsus* (Delfinado, Baker & Abbatiello), n. comb.

30. Tarsus and pretarsus IV very short, atrophied, lacking claws and empodium *obsoletus* Rack  
 – Tarsus and pretarsus IV normally developed, with claws and empodium 31
31. Epimeral setae 2b not daggerlike, sparsely barbed; seta *t* of tarsus IV minute *cupes*, n. sp.  
 – Epimeral setae 2b daggerlike; seta *t* of tarsus IV minute to long 32
32. Seta *t* of tarsus IV long, extending to or beyond tarsal claws; seta *r* of tarsus IV weak, bristlelike 33  
 – Seta *t* minute or very short; seta *r* short but not weak 35
33. Dorsal setae *d*, *e*<sub>1</sub>, *e*<sub>2</sub>, *f*<sub>1</sub> and *f*<sub>2</sub> longer than *c*<sub>1</sub> and *c*<sub>2</sub>; epimeral setae 2b stout, barbed; 4a long and barbed, about as long as 4b or 4c *humilis* Delfinado, Baker & Abbatiello  
 – Dorsal setae *d*, *e*<sub>1</sub>, *e*<sub>2</sub>, *f*<sub>1</sub> and *f*<sub>2</sub> shorter than or about as long as *c*<sub>1</sub> and *c*<sub>2</sub>; epimeral setae 2b daggerlike, smooth; 4a short, simple, about ½ as long as 4b or 4c 34
34. Caudal setae *h*<sub>1</sub> and *h*<sub>2</sub> shorter than *h*<sub>3</sub>, sparsely barbed *degenerans italicus* Berlese  
 – Caudal setae *h*<sub>1</sub> and *h*<sub>2</sub> as long as *h*<sub>3</sub> densely short plumose *degenerans nearcticus* Delfinado, Baker & Abbatiello
35. Dorsal setae *d*, *e*<sub>1</sub>, *e*<sub>2</sub>, *f*<sub>1</sub> and *f*<sub>2</sub> similarly long and slender, tapered to fine points, uniformly barbed 36  
 – Dorsal setae *d*, *e*<sub>1</sub>, *e*<sub>2</sub>, *f*<sub>1</sub> and *f*<sub>2</sub> robust, varying in thickness and length, densely barbed distally 37
36. Dorsal setae *c*<sub>1</sub> and *c*<sub>2</sub> longer and stronger than *d*, *e*<sub>1</sub>, *f*<sub>1</sub> and *f*<sub>2</sub>; *e*<sub>2</sub> short, ½ as long as other dorsal setae; tibiotarsus I solenidion *W*<sub>2</sub> short, clavate *vulgaris* Delfinado & Baker  
 – Dorsal setae *c*<sub>1</sub> and *c*<sub>2</sub> shorter and more slender than *d*, *e*<sub>1</sub>, *f*<sub>1</sub> and *f*<sub>2</sub>; *e*<sub>2</sub> as long as other dorsal setae; tibiotarsus I solenidion *W*<sub>2</sub> long, slender and rodlike *parapicola* Delfinado, Baker & Abbatiello
37. Epimeral setae 4a, 4b and 4c similarly strong; 4b extending beyond posterior margin of hysterosoma; only solenidion *W*<sub>2</sub> of tibiotarsus I slender, others clavate *ithacensis* Delfinado & Baker  
 – Epimeral setae 4a shorter and more slender than 4b and 4c; 4b approaching posterior margin of hysterosoma; tibiotarsus I solenidia *W*<sub>2</sub> and  $\phi$ <sub>2</sub> both slender, *W*<sub>1</sub> and  $\phi$ <sub>1</sub> large, clavate *apicola* (Banks)

*Imparipes (I.) cupes*, n. sp.  
 (Figs. 1–4)

*Female*.—Idiosoma 268 microns long, 229 microns wide (holotype), ellipsoidal.





Figs. 1-4. *Imparipes cupes*, n. sp. 1. Female dorsum; 2. Venter; 3. Tibiotarsus I; 4. Tibia and tarsus II.

Dorsum (Fig. 1): Dorsal plates uniformly, finely punctate, well sclerotized. Sensillus capitate, spiculate. Prodorsal setae spinelike,  $pd_1$  more robust than  $pd_2$ . Setae  $c_1$  shorter than  $c_2$ , both slender, attenuate distally and sparsely barbed;  $d$  more robust and shorter than other setae;  $e_2$ ,  $f_2$  equal

in length, more slender than and about as long as  $e_1$ ,  $f_1$ ;  $e_1$ ,  $f_1$  both stout but  $e_1$  appearing shorter and stouter than  $f_1$ ; all setae moderately barbed.

Venter (Fig. 2): Coxisternal plates well sclerotized, finely punctate. Apodemes 1, 3 and anterior (apsa) and posterior sternal (apsp) apodemes strongly developed. Apodemes 4 and posterior end of posterior sternal apodeme (apsp) free and incomplete. Epimeral setae 1a, 1b long and stout, densely pectinate; 2a sparsely barbed; 2b about  $\frac{1}{2}$  as long as 2a, not daggerlike, sparsely barbed; 3a, 3b, 3c similarly short, densely barbed; 4a shorter and more slender than 4b; sparsely barbed; 4b almost reaching posterior margin of hysterosoma, sparsely barbed; 4c more robust than 4b, densely barbed; 4a arising anterior to 4b. Caudal setae  $h_1$ ,  $h_3$  nearly as strong as dorsal setae, densely pectinate;  $h_2$  setiform, short and smooth, origin approximate to  $h_1$ .

Legs (Figs. 3, 4): Tibiotarsus I with claw; solenidia  $W_2$ ,  $\phi_2$  similarly short and slender, shorter than clavate  $W_1$ ;  $\phi_1$  conspicuously large, clavate. Tarsus II solenidion  $W_1$  small, clavate, smaller than that of tibiotarsus I. Tibial solenidion  $\phi$  of legs II & III small, slender clavate and in sclerotized depression; seta laterodistad of solenidion, not spinelike but robust. Leg IV pretarsus about as long as tarsus; tarsus with 6 setae including hair-like seta q, seta t minute.

*Male*.—Unknown.

*Holotype*.—Female, Ithaca, New York, 16 July 1975, from *Cupes concolor* (Coleoptera: Cupedidae) (T. McCabe), collected by B. M. OConnor.

*Paratypes*.—Four females, with same data as holotype. The holotype and 1 paratype are deposited in the U.S. National Museum of Natural History collection (Washington, D.C.); other paratypes are in the New York State Museum & Science Service collection at Albany, and Cornell University collection at Ithaca, New York.

*Remarks*.—This species is similar to *Imparipes vulgaris* Delfinado & Baker, a scutacarid commonly found infesting bees. *I. cupes* differs as follows: Dorsal setae  $c_1$  are shorter than  $c_2$ ;  $e_2$  are as long as  $f_2$ ; epimeral setae 2b are not daggerlike, slender and sparsely barbed, and tibiotarsus I solenidion  $\phi_1$  is conspicuously large; in *vulgaris* setae  $c_1$  and  $c_2$  are equal in length;  $e_2$  are considerably shorter than  $f_2$ ; 2b are small, daggerlike and smooth, and solenidion  $\phi_1$  is not as large.

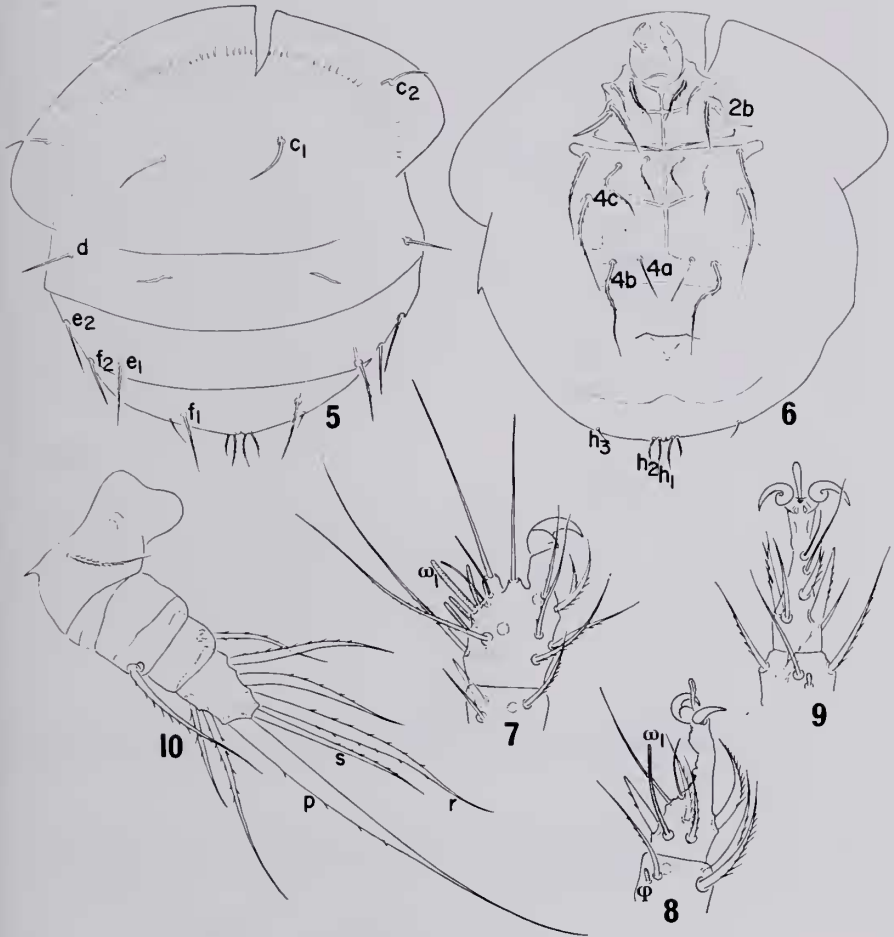
*Scutacarus* (S.) *meansi*, n. sp.

(Figs. 5-10)

*Female*.—Idiosoma 223 microns long, 191 microns wide (holotype), broadly ellipsoidal.

Dorsum (Fig. 5): Dorsal plates well sclerotized, uniformly, finely punctate. Sensillus capitate, sparsely spiculate. Prodorsal setae ( $pd_1$ ,  $pd_2$ )





Figs. 5-10. *Scutacarus (S.) meansi*, n. sp. 5. Female dorsum; 6. Venter; 7. Tibio-tarsus I; 8. Tibia and tarsus II showing empodium; 9. Tibia and tarsus III; 10. Leg IV.

minute and difficult to see. Setae  $c_1$ ,  $c_2$ ,  $d$  similarly short, stiff and smooth; setae  $e_1$ ,  $e_2$ ,  $f_1$ ,  $f_2$  similarly long and slender, finely attenuate distally;  $d$ ,  $e_1$ ,  $e_2$  smooth;  $f_2$  with 1-2 minute barbs;  $f_1$  finely barbed for most of its length.

Venter (Fig. 6): Coxisternal plates well sclerotized, uniformly, finely punctate. Apodemes 1, 2 strong, complete. Apodemes 4 and posterior sternal apodeme (apsp) incomplete, free. Epimeral setae 1a stout, densely pectinate; 1b slender, sparsely pectinate; 2a slightly heavier than 1b, sparsely pectinate; 2b daggerlike, smooth; 3a, 3b similar in thickness,

sparsely pectinate, 3a shorter than 3b; 3c heavier and longer than 3a, 3b, barbed; 4a short and slender, about  $\frac{1}{2}$  as long as 4b, smooth; 4b sparsely barbed; 4c robust, sparsely pectinate; 4a, 4b bases arranged in straight transverse line. Caudal setae  $h_1$ ,  $h_2$  barbed, approximate at their origins,  $h_1$  heavier and longer than  $h_2$ ;  $h_3$  small, slender and smooth.

Legs (Figs. 7-10): Tibiotarsus I with claw; solenidia  $W_2$ ,  $\phi_1$ ,  $\phi_2$  similarly slender clavate and much shorter than  $W_1$ ;  $W_1$  very long and slender, fingerlike. Tibial solenidion  $\phi$  of legs II & III very small, peglike, not in depression; seta distad of solenidion not spinelike, slender. Tarsus II solenidion  $W_1$  characteristically very long and slender, rodlike. Leg IV as figured; tibiotarsus short, about  $\frac{1}{3}$  as long as basal width, with 7 setae; seta p stouter than r; seta s slender. Trochanter IV with pointed spur dorsally. Empodium of tarsi II & III slender, spatulate and not disclike.

*Male*.—Unknown.

*Holotype*.—Female, Cambridge, New York, 21 April 1976, taken from bird nest, by M. Delfinado.

*Paratypes*.—Three females, with same data as holotype; 2 females, Cambridge, New York, 30 April 1976, from dog food, collected by R. Means. The holotype and 2 paratypes are deposited in the New York State Museum & Science Service collection at Albany; other paratypes are in the U.S. National Museum of Natural History, and the Acarology Laboratory, Ohio State University, Columbus, Ohio.

*Remarks*.—This species is unique in that the empodium of tarsi II & III is not disclike but slender and spatulate, and the tarsus II solenidion  $W_1$  is unusually long and slender; also the trochanter of leg IV has a pointed spur dorsally.

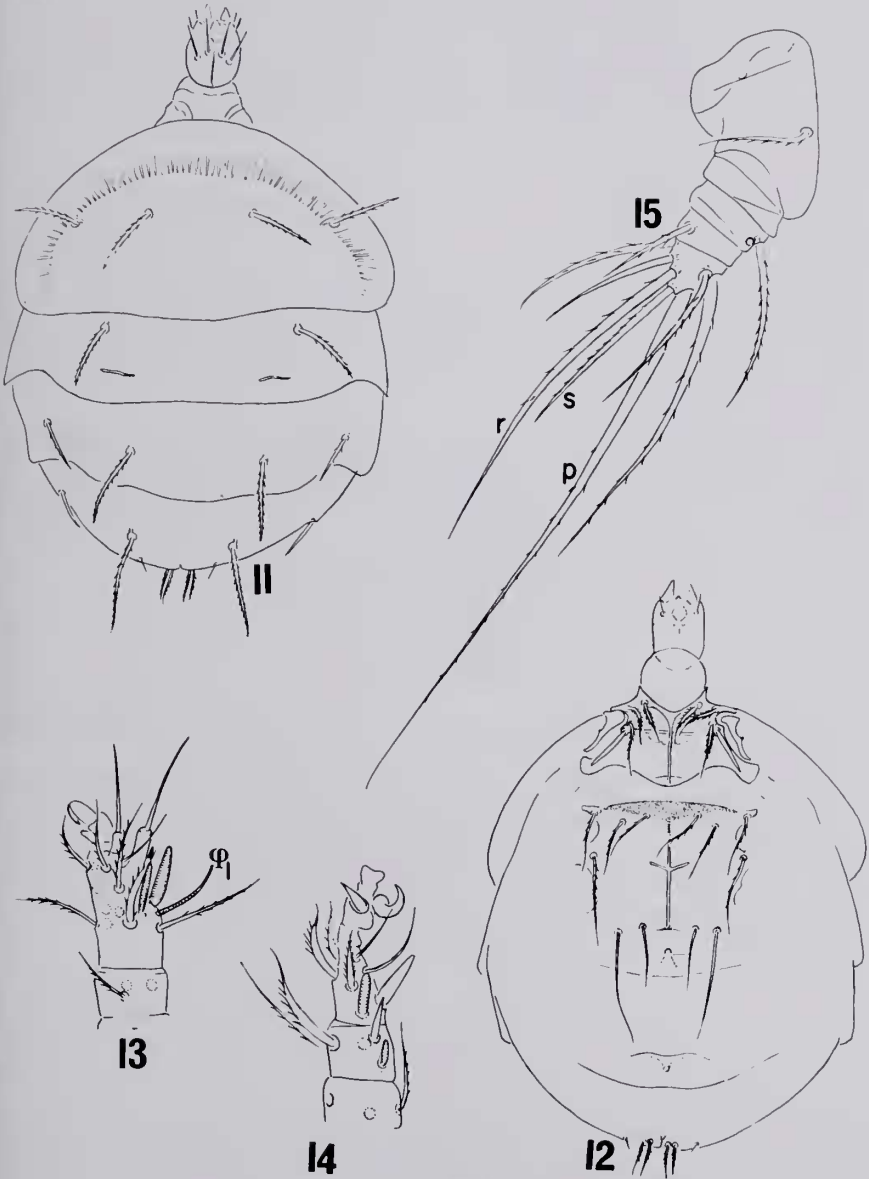
This mite is named for Robert E. Means, of the New York State Museum & Science Service, Albany, who has collected many specimens.

*Scutacarus (S.) unicus indefinitus*, n. subsp.  
(Figs. 11-15)

*Female*.—Idiosoma 190 microns long, 153 microns wide, excluding gnathosoma (paratype), ellipsoidal.

Dorsum (Fig. 11): Dorsal plate minutely punctate. Prodorsal setae  $pd_1$  as slender as  $pd_2$ . Sensillus capitate, spiculate. Type and size of dorsal hysterosomal setae essentially as in type form, *unicus* Delfinado & Baker, except  $e_1$ ,  $f_1$  noticeably longer than other setae;  $e_2$ ,  $f_2$  slender and short, with 2-3 sharp barbs as in type form. Setae  $c_1$ ,  $c_2$  equally short and stout, both shorter than  $e_1$ ,  $f_1$  and with sharp barbs.

Venter (Fig. 12): Apodemes and type of epimeral setae as in type form. Caudal setae  $h_1$ ,  $h_2$  pectinate, equal in length and approximate at their origins;  $h_3$  very small.



Figs. 11-15. *Scutacarus (S.) unicus indefinitus*, n. subsp. 11. Female dorsum; 12. Venter; 13. Tibiotarsus I; 14. Tibia and tarsus II; 15. Leg IV.

Legs (Figs. 13-15): Tibiotarsus I with claw; solenidia  $W_2$ ,  $W_1$ ,  $\phi_1$ ,  $\phi_2$  as in type form, with  $\phi_1$  characteristically very long and slender. Tarsus II solenidion  $W_1$  as large as that of tibiotarsus I. Tibia III solenidion  $\phi$  much smaller than that of tibia II; seta laterodistad of solenidion spinelike, robust. Tibiotarsus IV slightly longer than basal width, with 7 setae; seta s slender, sparsely barbed distally.

*Male*.—Unknown.

*Holotype*.—Female, Cambridge, New York, 21 April 1976, taken from bird nest, by M. D. Delfinado.

*Paratypes*.—Six females, with same data as holotype. The holotype and 2 paratypes are deposited in the New York State Museum & Science Service collection at Albany; other paratypes are in the U.S. National Museum of Natural History, and the Acarology Laboratory, Ohio State University, Columbus, Ohio.

*Remarks*.—The female of the new subspecies, *indefinitus*, differs primarily from that of the type form, *unicus*, by having long, slender and sparsely barbed seta s of tibiotarsus IV; in the type form this seta is short, daggerlike and smooth. Also prodorsal setae ( $pd_1$ ,  $pd_2$ ) are similarly slender; in the type form  $pd_1$  are more robust than  $pd_2$ .

*Scutacarus (Variatipes) subaffinis*, n. sp.

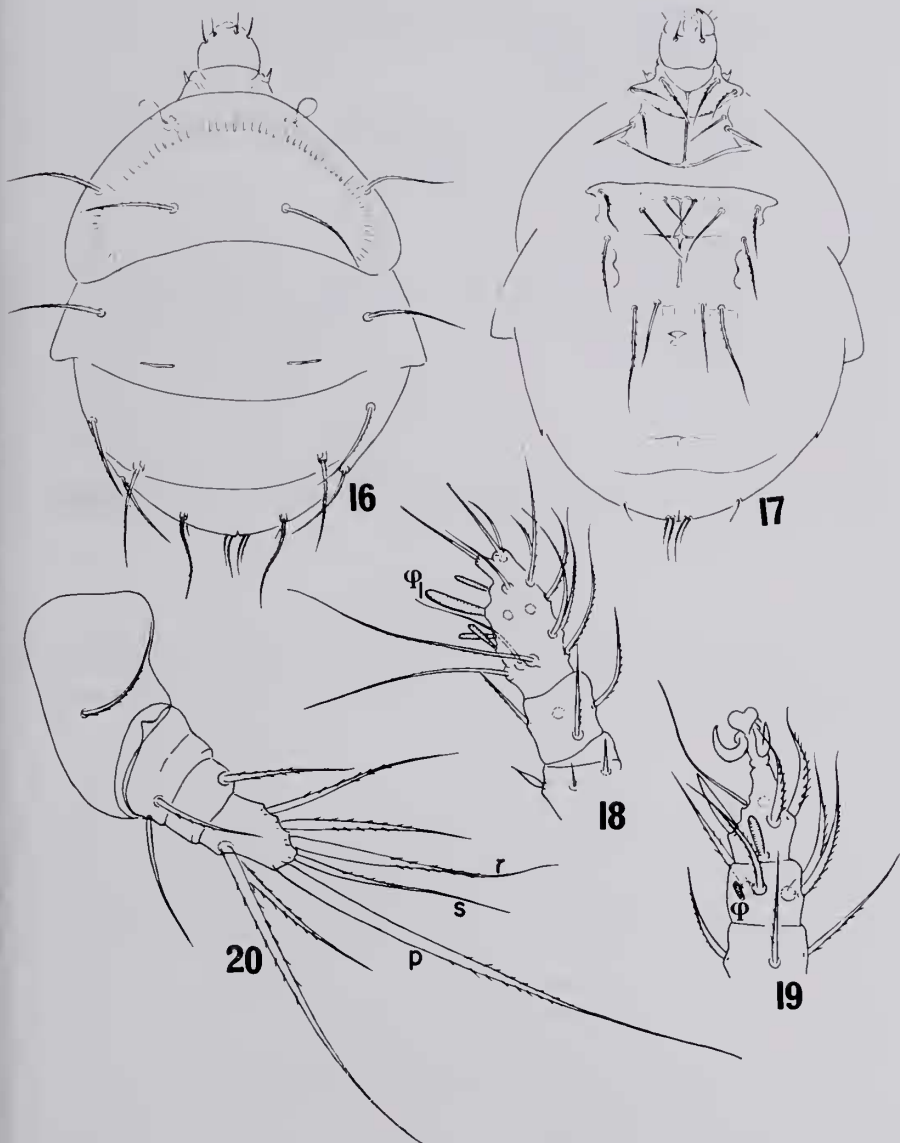
(Figs. 16-20)

*Female*.—Idiosoma 287 microns long, 191 microns wide (paratype), ellipsoidal.

Dorsum (Fig. 16): Dorsal plates uniformly punctate. Sensillus capitate, sparsely spiculate. Prodorsal setae  $pd_1$  stout, lanceolate and short,  $pd_2$  long and slender. All dorsal setae long and slender, finely attenuate distally;  $e_1$ ,  $e_2$  slender, about as long as  $d$ ,  $f_1$ ,  $e_1$ , sparsely barbed;  $d$ ,  $e_2$ ,  $f_2$  about equal in length, sparsely and minutely barbed, may appear smooth;  $e_1$ ,  $f_1$  stronger and longer than other setae.

Venter (Fig. 17): Coxisternal plates well sclerotized, finely punctate. Apodemes 1, 3 strong and complete. Apodemes 4 and posterior end of sternal apodeme (apsp) free, incomplete. Epimeral setae 1a stout, sharply serrate; 1b almost as slender as 2a, barbed; 2a slender, stiff, sparsely barbed; 2b daggerlike, smooth; 3a shorter and more slender than 3b, 3e, sparsely barbed; 4a short and slender, with minute barbs; 4e stouter than 4b, almost serrate; 4a, 4b bases arranged in straight transverse line. Caudal setae  $h_1$ ,  $h_2$  strong and serrate, approximate at their origins,  $h_1$  stronger and longer than  $h_2$ ;  $h_3$  tiny.

Legs (Figs. 18-20): Tibiotarsus I without claw; solenidia  $W_2$ ,  $\phi_2$ ,  $\phi_1$  similarly short;  $W_2$ ,  $\phi_2$  both slender, clavate;  $\phi_1$  clavate, swollen distally;  $W_1$  long and conspicuously large, clavate. Tibial solenidion  $\phi$  of legs II & III



Figs. 16–20. *Scutacarus (V.) subaffinis*, n. sp. 16, female dorsum; 17, venter; 18, tibiotarsus I; 19, tibia and tarsus II; 20, leg IV.

small, somewhat capitate, in sclerotized depression; seta laterodistad of solenidion not spinelike, slender. Tarsus II solenidion  $W_1$  short, clavate. Tibiotarsus IV short, about  $\frac{1}{3}$  as long as basal width, with 7 setae, all robust and sparsely serrate; seta r nearly as stout as seta p, seta s slender.

*Male*.—Unknown.

*Holotype*.—Female, Cambridge, New York, 21 April 1976, taken from bird nest, by M. D. Delfinado.

*Paratypes*.—Ten females, with same data as holotype. The holotype and 4 paratypes are deposited in the New York State Museum & Science Service collection at Albany; other paratypes are in the U.S. National Museum of Natural History, and the Acarology Laboratory, Ohio State University, Columbus, Ohio.

*Remarks*.—In general appearance the female of *subaffinis*, n. sp. may be confused with that of *affinis* Delfinado, Baker & Abbatiello, or that of *contiguus* Delfinado, Baker & Abbatiello. *S. subaffinis*, however, differs by having similarly long, slender and distally attenuate dorsal setae, and similarly short solenidia  $\phi_1$ ,  $\phi_2$ ,  $W_2$  of tibiotarsus I and  $W_2$  being shorter than  $W_1$ . In the related species  $W_2$  is conspicuously long and slender, as long as  $W_1$ ; dorsal setae  $e_2$  and  $f_2$  are much shorter than other setae. Caudal setae  $h_1$  and  $h_2$  are serrate in *subaffinis* and *contiguus*; in *affinis* these setae are sparsely barbed and simple respectively.

#### Acknowledgment

We thank Dr. Gisela Rack, of the Universität Hamburg, Zoologisches Institut und Zoologisches Museum, West Germany, for kindly reviewing the manuscript.

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Received for publication 28 August, 1977.

#### Footnotes

<sup>1</sup>Published by Permission of the Director, New York State Science Service Journal Series No. 239.

<sup>2</sup>*S. jacoti* has 7 setae on tibiotarsus IV, not 6 as figured and stated in the original description (1976:111-112).